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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,890	11/04/2003	James A. DiLellio	03-0489	2889

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EXAMINER	
ISSING, GREGORY C	
ART UNIT	**PAPER NUMBER**
3662	

DATE MAILED: 07/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/605,890	DILELLIO, JAMES A.	
	Examiner	Art Unit	
	Gregory C. Issing	3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 15-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 14-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/21/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1, 24, and 33, the language "determining . . . an accuracy of at least one of said range and said position" is not clearly defined. In claim 22, the language "determining reliability of at least one of said range and said position" is not clearly defined. It is not clear what the applicant's distinction is between these terms and how the receiver and its operation differ between such as well.

Claims 5-8 are misdescriptive since it defines the non-geostationary satellite as generating a second signal having said integrity information which appears contradictory to claim 1 and to applicant's arguments.

Claims 11-12 are misdescriptive since it defines the non-geostationary satellite as generating the plurality of signals comprising integrity information.

Claim 13 is indefinite since it is not clear how it further limits the independent claim.

Claim 24 remains indefinite for being functional since the "wherein" clause is a functional statement and since it is unclear from the structure defined in the claim, which is directed to a navigation receiver, what structure in the claim perform the function of transmitting integrity information.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-13 and 15-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The applicant alleges novelty over the prior art since allegedly the known navigation receivers do not determine an accuracy of at least one of the range/position of a non-geostationary satellite from the plurality of signals generated and transmitted by

the non-geostationary satellite. However, it is unclear how the step regarding the receiver for either "determining an accuracy/reliability of at least one of said range and said position" of the non-geostationary satellite is achieved. The specification fails to provide an enabling disclosure as to how the accuracy or reliability of the non-geostationary satellite's range or position is determined from the plurality of signals generated by the satellite and having the integrity information. In the art of satellite navigation, the satellite navigation message includes integrity signals generated at a central ground control station and relayed by the satellite; the user "determines" accuracy by determining and reading the navigation message which includes integrity data/flags and which message also includes the satellite position information in the form of ephemeris /almanac data. Moreover, the claim defines the generation of the integrity signal at a central station as well as the satellite generating a plurality of signals having said integrity information; thus, the signal generated and transmitted by the satellite comprises something more or less than the integrity information, it is not clear what, merely that the plurality of signals generated at the satellite "have said integrity information." It is unclear from such then how the applicant's argument that the prior art suggests generation of integrity information at the satellite negates its teachings in view of the claimed subject matter since the claimed subject matter clearly defines the satellite generating a plurality of signals having integrity information.

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 24-32and 37-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Clark (6,850,187).

The rejection is set forth in a previous Office Action.

Applicant's argument with respect to Clark is not convincing. Applicant argues that the claim defines the transmission of integrity information to a non-geostationary satellite from a central station. However, the claim is directed to the navigation receiver. The "wherein clause" with respect to the source of a transmitted signal is not limitative to the navigation receiver. The language is merely functional language that cannot be provided by any of the elements of the navigation receiver and thus fail to provide any limitative structure to the navigation receiver.

7. Claims 1-13 and 15-38 are rejected under 35 U.S.C. 102(a/e) as being anticipated by Hollreiser et al (GALILEO User Segment Overview").

Hollreiser et al disclose at least one non-geostationary satellite (P. 1914, col. 2 "1. Introduction") generating a plurality of signals having integrity information (Tables 1 and 4, e.g.), and a navigation receiver, i.e. the User segment, determining the range ("Pseudoragne and Phase Measurements on SIS") to at least one of the non-geostationary satellites and a position of the satellites, which position is required to be determined in order to determine a navigation output. The User receiver determines the accuracy of the range and position in response to the received signals having integrity information, ("Autonomous Integrity Determination" and "Protection Level Computation"). The User receiver also determines the reliability ("SIS Integrity Determination").

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-13 and 15-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinal et al ("INMARSAT Integrity Channels for Global Navigation Satellite Systems" in view of Caporicci et al ("GPS Integrity Monitoring and System Improvement with Ground Station and Multisatationary Satellite Support").

10. Kinal et al teach the subject matter substantially as claimed including an operations Center that generates navigation signals (navigation and integrity data) having integrity information, at least one satellite (INMARSAT) receiving the integrity signals and generating a plurality of signals having the integrity information as well as navigation information (RGIC), and a navigation receiver (ship, plane, truck) for conventional GPS processing. Conventional GPS processing includes receiving and demodulating a navigation message and the determination of pseudorange and subsequently position therefrom. Kinal et al also teach that due to the wide coverage of GNSS, the most suitable transmission

method for conveying the integrity data is by means of a signal broadcast from a geostationary satellite; the language "most suitable" clearly suggesting that other broadcasts are clearly envisioned and that geostationary satellite broadcast is clearly not the only method. Figure 3 exemplifies an integrity signal format. Kinal et al also teach "all sources of error, whether in the satellite clock or in the reported as opposed to actual satellite positions, can be translated into a composite URE. Each user receiver is then able to determine whether a signal with a given URE (as provided through the GIC) is acceptable under its particular circumstances." The satellite clock error corresponds to the claimed range while the satellite positions correspond to the claimed satellite positions. Thus, Kinal et al teach the generation of integrity signals at a central station, the reception and transmission of signals at a satellite wherein the signals transmitted include integrity information, and a navigation receiver for determining a range to the satellite using timing information, a position of the satellite demodulated from the navigation message, and an accuracy of one or both of the range, in the form of the clock error, or the satellite position, in the form of the ephemeris errors.

11. Kinal et al differ from the claimed subject matter since a non-geostationary satellite is not specified but rather Kinal et al suggest a geo-stationary satellite as being the most suitable.

12. Caporicci et al teach that it is known to transmit GPS integrity data via multi-stationary satellites, which use has advantages with respect to the use of geostationary satellites (see Abstract).

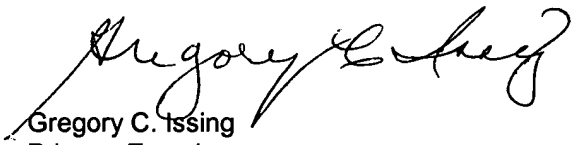
13. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kinal et al by substituting multistationary satellites for the geostationary satellites to forward integrity signals from a central station to navigation receivers in view of the teachings and advantages as set forth by Caporicci et al.

14. Applicant's arguments that the prior art does not teach the navigation receiver "determining the accuracy" is not convincing since the demodulation of the integrity information from the transmitted navigation message, which includes the integrity information, as well as the decision to use or not to use the satellite signal is not different fro the claimed subject matter much less than the disclosed subject matter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory C. Issing whose telephone number is (571)-272-6973. The examiner can normally be reached on Monday - Thursday 6:00 AM- 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on (571)-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Gregory C. Issing
Primary Examiner
Art Unit 3662

gci